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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,928

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Yasuyuki Kanai

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08/09/2006

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EXAMINER

STERRETT, JEFFREY L

ART UNIT

PAPER NUMBER

2838

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/526,928	KANAI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jeffrey L. Sterrett	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 40-78 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 64-78 is/are allowed.
- 6) ☒ Claim(s) 40-63 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08 March 2005</u> . | 6) <input type="checkbox"/> Other: ____  |

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
2. The drawings are objected to under 37 CFR 1.84(h)(5) because Figures 6 and 21-28 improperly show modified forms of construction in the same view utilizing dashed lines to show alternative or optional connections. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to because in figures 16 and 17 selector is misspelled as "SELLECTOR". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any

amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because in figure 24 reference character "62" has been used to designate both the constant voltage element and the constant current element (which is should be noted is also improperly labeled with the text "constant voltage element"). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

6. Claims 41-43 are objected to because of the following informalities.

In line 1 of claims 41 and 42 "the low voltage output" lacks proper antecedent basis.

In lines 1-2 of claim 43 "the power supplying unit" lacks proper antecedent basis. It is noted that --the power supply unit-- would have proper antecedent basis

Appropriate correction is required.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 40, 41, 43, 45-58, and 60-63 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese reference 11-196540.

Japanese reference 11-196540 discloses a booster (10, 50, and 70) comprising a solar cell (see lines 20-22 of page 1 of translation) as a low voltage source (12), a booster circuit (20), a power supply unit (22), a selector circuit (16, 44, and 72) that includes a first element (34 and 74) and a second rectifier element (36 and 76), a switching unit (42 and 82), a signal delay circuit (50-62), and an output controller circuit (18).

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9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 42 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese reference 11-196540 in combination with Osinga et al (US 7,081,739).

Japanese reference 11-196540 teaches a booster as explained above and as recited by claim 42 except for utilizing a fuel cell instead of the solar cell as the low voltage source. Osinga et al teaches in lines 44-47 of column 3 that solar cells and fuel cells were equivalent old and known voltage sources in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the booster of Japanese reference 11-196540 by utilizing a fuel cell instead of the solar cell as the low voltage source since the two were equivalent old and known voltage sources in the art at the time of the invention as taught by Osinga et al.

11. Claims 44 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese reference 11-196540.

Japanese reference 11-196540 teaches a booster as explained above and as recited by claim 44 except for utilizing a lithium storage cell as the power supplying unit. Official notice is taken that lithium storage cells were old and known battery expedients in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the booster of Japanese

reference 11-196540 by utilizing a lithium storage cell as the power supplying unit in order to benefit from the known operating characteristics of lithium storage cells.

12. Claims 59 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese reference 11-196540.

Japanese reference 11-196540 teaches a booster as explained above and as recited by claim 59 except for utilizing two switches in the switching unit. Official notice is taken that utilizing separate stop and start switches responsive to respective stop and start signals was an old and known expedient in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the booster of Japanese reference 11-196540 by utilizing separate stop and start switches responsive to respective stop and start signals in order to provide more control than a single switch responsive to a single ON/OFF signal.

13. Claims 64-78 are allowable over the prior art since a booster comprising an auxiliary booster circuit that outputs start-up energy to a main booster circuit was not found to be singularly or collectively taught by the prior art.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Raiser is cited to show a booster circuit with a fuel cell as the input source that was old and known in the art at the time of the invention.

Ahrens et al (US 4,691,159), Lafferty (US 5,027,051), and Midya et al (US 5,801,519) are cited to show a booster circuits with a solar cells as the input sources that was old and known in the art at the time of the invention.

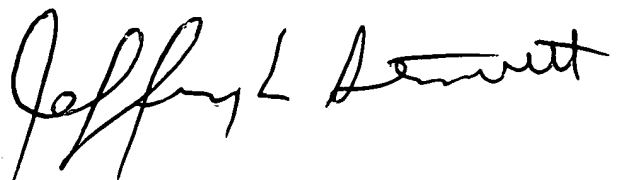
Jordan et al (US 5,751,139), Yama (US 5,892,353), and Pong (US 6,037,756) are cited to show a booster circuits old and known in the art at the time of the invention.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Sterrett whose telephone number is (571) 272-2085. The examiner can normally be reached on Monday-Thursday & 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl D. Easthom can be reached on (571) 272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey L. Sterrett  
Primary Examiner  
Art Unit 2838

A handwritten signature in black ink, appearing to read "Jeffrey L. Sterrett", written in a cursive style.